

RAZVYAZKINA, G. N.

May 53

USSR/Biology-Tobacco Thrips

"The Importance of the Tobacco Thrips (Thysanoptera) in the Development of an Epiphytic of Foliage Chlorosis of Tobacco Plants," G.M. Razvyazkina, Moscow Plant Protection Station, submitted by Plant Protection Section, All-Union Academy of Agricultural Sciences im V.I. Lenin.

Dok V-s Ak S-kh Nauk, No 6, pp 27-31

Describes expts which identified the tobacco thrips as the primary carriers of the chlorosis infection of foliage in tobacco and tomato plants. Acting as hosts to the virus, the thrips can contaminate the foliage of a plant in 5 min. The virus of the foliage chlorosis is not transmitted to later generations of thrips through the egg of the thrips.

267T1

SUKHOV, K.S.; RAZVYAZKINA, G.M.

Mottled top of makhorka, its causative agent and transmitter. Trudy  
Inst.gen. no.20:270-282 '53. (MIRA 7:1)  
(Chlorosis (Plants)) (Tobacco--Diseases and pests)

SUKHOV, Konstantin Stepanovich; RAZVYAZKINA, Galina Mikhaylovna; PEREDEL'-  
skiy, A.A., redaktor; GUBER, A., tekhnicheskiiy redaktor.

[Biology of viruses and virus diseases of plants] Biologiya virusov  
i virusnye bolezni rastenii. Moskva, Gos. izd-vo "Sovetskaya nauka"  
1955. 226 p. (MLRA 9:5)

(Viruses) (Plant diseases)

Country : USSR C  
Category : Plant Diseases. Diseases of Cultivated Plants.  
Abstr Jour. : Russ. Zhurn.-Biologiya No. 11, 1955. No. 19267  
Author : Sukhov, K.S.; Razvyazkina, G.M.  
Institute : Not given  
Title : Sugar Beet Yellows

Orig. Pub.: Zashchita rast. ot vredit. i bolezney, 1957,  
No. 6, 55

Abstract : This disease which is widespread throughout the  
countries of Western and Central Europe has been  
detected in the western regions of the USSR.  
The symptoms of yellows, its carriers, the  
susceptibility in plants of different families  
are described.

Card 1/1

CZECHOSLOVAKIA / Virology. Plant Viruses.

E-1

Abs Jour : Ref Zhur' - Biologiya, No 22, 1958, No. 99077

leaf phase, did not become diseased. The longest period of incubation was noted by infecting the lower leaves (28 days); by inoculating the upper leaves, incubation was shortened to 20 days, which, probably, is explained by the diverse speed of multiplication of the virus in the tissues of different age. The speed of motion of the virus in the tomato plant equals 1 cm per hour. In contrast to Krasnodarskiy Kray, Rostovskaya Oblast' and the Crimea, in Northern Ossetia tomato big bud infection appears at earlier periods. The cicada *Aphrodes bicinctus*, registered in Czechoslovakia as the transmitter of tomato big bud infection, in investigation in Northern Ossetia did not transmit the disease. Among the subsidiary weeds of the virus, except bindweed, St. John's Wort-*Hypericum perforatum* is of substantial importance.

Card 2/3

Under the conditions of Northern Ossetia the thorn apple becomes highly infected with tomato big bud infection. -- G. M. Razvyazkina

Card 3/3

USSR / General and Special Zoology. Insects. System- P  
atics and Faunistics.

Abs Jour: Ref Zhur-Biol., No 14, 1958, 63857.

Author : Razvyazkina, G. M.

Inst : Not given.

Title : New and Little-known Species of Six-Pointed  
Cicadae, Genus *Macrosteles* (Homoptera-Cicadoidea).

Orig Pub: Zool. zh., 1957, 36, No 4, 521-528.

Abstract: Two new species are described: *M. zachvatkini*  
and *M. romancevi*. It is clarified that the spe-  
cies described by numerous authors under the  
name of *M. opacipennis*, was not identical with  
the species of the Astrakhan environs, *C. opaci-*  
*pennis*, described by Letier; it is, therefore,

Card 1/2

15

Abstract: given a new name by the author: *M. oschani*.  
It is pointed out that *M. salinus* is identical  
with *M. sordidipennis* Stal. -- Yu. G. Vilbaste.

APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R001444

Card 2/2

RAZVYAZKINA, G.M.

The cicada *Aphrodes bicinctus* Schrank as a transmitter of the greening of flowers, a new virus disease of clover. Zool.zhur. 38 no.3:494-495 Mr '59. (MIRA 12:4)

1. All-Union Research Institute of Phytopathology (Moscow).  
(Cicadas as carriers of disease).  
(Iksha region--Clover--Diseases and pests)

RAZVYAZKINA, G.M.

Bioecology of hexapunctatecicadas of the genus *Macrosteles* and their epiphytological significance. Zool. zhur. 39 no.12:1855-1865 '60. (MIRA 14:1)

1. Moscow Station of Plant Protection.  
(Cicada) (Insects as carriers of disease)  
(Virus diseases of plants)



FASULATI, Kirill Ksenofontovich; RAZVYAZKINA, G.M., red.; KAPYSHEVA, V.S.,  
red. izd-va; STOLYAROVA, M.T., tekhn. red.

[Field study of terrestrial invertebrates] Polevoe ~~izucheni~~ na-  
zemnykh bezpozvonochnykh. Moskva, Gos. izd-vo "Vysshaya shkola,"  
1961. 303 p. (MIRA 14:8)  
(Invertebrates) (Zoology--Field work)

ACC NR: AP6030661

SOURCE CODE: UR/0020/66/169/006/1446/1448

AUTHOR: Shteyn-Margolina, V. A.; Cherni, N. Ye.; Razvyazkina, G. M.

ORG: Electron Microscopy Laboratory, Academy of Sciences, SSSR (Laboratoriya elektronnoy mikroskopii, Akademiya Nauk SSSR)

TITLE: Wheat-streak mosaic virus in plant cells and its tick carrier

SOURCE: AN SSSR. Doklady, v. 169, no. 6, 1966, 1446-1448

TOPIC TAGS: wheat streak mosaic virus, plant disease, disease vector, tick,  
~~wheat streak~~ virus, *animal parasite*

ABSTRACT: Ticks from the family *Eriophylidae* carry wheat-streak mosaic virus particles. Electromicrographic study shows that the particles are carried intracellularly as well as on the surface of the tick. Laboratory induction of the carrier state in the tick vector was accomplished by coating the vectors with a buffered leaf extract. The electron micrographs and aspects of related mosaic viruses were also discussed. [WA-50; CBE No. 12]

SUB CODE: 06/ SUBM DATE: 26Feb66/ ORIG REF: 005/ OTH REF: 015/

Card 1/1

UDC: 576.858.8

RAZVYAZKIN, G., nauchnyy sotrudnik; GORBUNOVA, N., nauchnyy sotrudnik.

Wheat streak mosaic. Zashch. rast. ot vred. i bol. 10  
no.1:20 '65. (MIRA 18:3)

RAZVYAZKINA, G. M.; SHASKOL'SKAYA, N. D.; BLAGODATELEVA, G. P.

"Patologicheskoye deystviye virusov gruppy zheltukh na rasteniye i nasekomoye-perenoschika."

paper presented at Symp on Virus Diseases, Moscow, 6-9 Oct 64.

LOMAKINA, L.Ya.; RAZVYAZKINA, G.M.; SHUBNIKOVA, Ye.A.

Cytological and histological changes in the fat body of the cicada *Psammotettix Striatus* Fall, infected with the winter wheat mosaic virus. Vop. virus 8 no.2:168-172 Mr-Ap'63  
(MIRA 16:12)

1. Moskovskiy gosudarstvennyy universitet i Vsesoyuznyy nauchno-issledovatel'skiy institut fitopatologii.

RAZVYAZKINA, G.M., kand.biolog.nauk; PROTSENKO, A.Ye., kand.biolog.nauk

Streak mosaic of wheat. Priroda 52 no.7:115 J1 '63.  
(MIRA 16:8)

1. Institut mikrobiologii AN SSSR, Moskva.  
(Wheat--Diseases and pests) (Mosaic disease)

RAZVIAZKINA, G.M., kand.biolog.nauk

Conference on virus diseases of plants. Zashch. rast. ot vred. i  
bol. 8 no.5:60-61 My '63. (MIRA 16:9)  
(Virus diseases of plants)

ATABEKOV, I. G.; RAZVYAZKINA G. M.; ANDRYUSHCHENKO, M. D.;  
KOSMACHEVSKIY, A. S., doktor biolog. nauk

Brief reports. Zashch. rast. ot vred. i bol. 6 no.6:56-57  
Je '61. (MIRA 16:4)

1. Nauchnyy rabotnik Izmail'skoy opytnoy stantsii (for  
Andryushchenko). 2. Krasnodarskiy pedagogicheskiy institut  
(for Kosmachevskiy).

(Plants, Protection of)



SUKHOV, K.S., doktor biolog.nauk; RAZVYAZKINA, G.M., kand.biolog.nauk

Yellow wilt of sugar beets. Zashch. rast. ot vred. i bol. 2

no.6:55 N-D '57.

(MIRA 16:1)

(Sugar beets--Diseases and pests)

(Virus diseases of plants)

RAZVYAZKINA, G.M.; PRIDANTSEVA, Ye.A.; SHASKOL'SKAYA, N.D.

Methods of rearing cicadas, carriers of plant disease, under artificial conditions. Nauch.dokl.vys.shkoly; biol.nauki no.4: 28-32 '62. (MIRA 15:10)

1. Rekomendovana Vsesoyuznym nauchno-issledovatel'skim institutom fitopatologii.

(INSECTS AS CARRIERS OF PLANT DISEASES)  
(CICADA) (INSECTS AS LABORATORY ANIMALS)

SUKHOV, K.S.; RAZVYAZKINA, G.M.; PRIDANTSEVA, Ye.A.; BELYANCHIKOVA, Yu.V.

Studying virus diseases of grain crops. Zashch.rast.ot vred.i  
bol. 7 no.4:40 Ap '62. (MIRA 15:12)  
(Krasnodar Territory--Grain--Diseases and pests)  
(Krasnodar Territory--Virus diseases of plants)

RAZYGRAYEV, Arkadiy Mikhaylovich; DVORIN, Zinoviy Abramovich; GOL'TSIKER, David Girshevich; BAKHAREV, Sergey Aleksandrovich; FATEYEV, A.V., doktor tekhn. nauk, retsenzent; VOROSHILOV, M.S., kand. tekhn.nauk, red.; BORODULINA, I.A., red. izd-va; SHCHETININA, L.V., tekhn.red.

[Design and assembly of the electrical equipment of metal-cutting machines] Proektirovanie i montazh elektrooborudovaniia metallo-rezhushchikh stankov. Izd. 2., dop. i perer. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 303 p.

(MIRA 14:6)

(Cutting machines--Electric equipment)

RAZYGRAYEV, Aleksandr Matveyevich; KRIVSHIN, A.P., kand. tekhn. nauk, retsenzent; AYZENBERG, B.I., inzh., retsenzent; CHUDAKOV, K.P., kand. tekhn. nauk, nauchnyy red.; GORDEYEV, P.A., red. izd-va; OSENKO, L.M., tekhn. red.

[Repair of building machinery and equipment] Remont stroitel'nykh mashin i oborudovaniia. Moskva, Gos. izd-vo lit-ry po stroit., arkhitekt. i stroit. materialam, 1961. 295 p. (MIRA 14:11)  
(Building machinery--Maintenance and repair)

RAJUN, David Matveyevich, dots. Vand. tekhn. nauk; KAZYGRAYEV,  
Alexander Matveyevich, inzh.; PESHKOV, Ye.O., retsenzent;  
KREPOVIN, G.M., retsenzent; BOCHAROVA, Yu.F., red.

[Technology of metals and structural materials] Tekhnolo-  
giya metallor i konstruktsionnye materialy. Moskva, Vys-  
shaya shkola, 1965. 373 p. (MIRA 18:12)

POLUKHIN, P.I., prof., doktor tekhn.nauk, red.; GRINBERG, B.G., dotsent, kand.tekhn.nauk; KANTENIK, S.K., dotsent, kand.tekhn.nauk; ZHADAN, V.T., dotsent, kand.tekhn.nauk; VASIL'YEV, D.I., dotsent, kand.tekhn.nauk; LEBEDEV, B.G., dotsent, kand.tekhn.nauk, nauchnyy red.; LAKHTIN, Yu.M., prof., doktor tekhn.nauk, retsenzent; KITAYTSEV, V.A., dotsent, kand.tekhn.nauk, retsenzent; RAZYGRAYEV, A.M., inzh., retsenzent; YUDINA, L.A., red.izd-va; RYAZANOV, P.Ye., tekhn.red.

[Technology of metals] Tekhnologiya metallov. Pod obshchei red. P.I.Polukhina. Moskva, Gos.izd-vo lit-ry po stroit., arkhitekt. i stroit.materialam, 1960. 460 p.

(MIRA 14:3)

1. Kafedra metallovedeniya Moskovskogo avtomobil'no-dorozhnogo instituta (for Lakhtin, Kitaytsev, Razygrayev).  
(Metals) (Metalwork)

RAZYGRAYEV, Aleksandr Matveyevich, inzh.; BRAUN, David Anisimovich, dotsent,  
kand.tekhn.nauk; AYZENBERG, Ya.M., inzh., nauchnyy red.; ZAKHARENKO,  
V.I., red.; GORDEYEV, P.A., red.; MEDVEDEV, L.Ya., tekhn.red.;  
EL'KINA, E.M., tekhn.red.

[Technology of metals] Tekhnologiya metallov. Moskva, Gos. izd-vo  
lit-ry po stroit., arkhitekt. i stroit. materialam, 1958. 322 p.  
(Metals) (MIRA 12:2)



GOL'TSIKER, D.G.; RAZYGRAEV, A.M.

"Machining form surfaces" by I.A.Druzhinskii. Reviewed by D.G.  
Gol'tsiker, A.M.Razygraev. Stan.i instr. 33 no.12:38-40 D  
'62. (MIRA 16:1)  
(Metal cutting) (Druzhinskii, I.A.)

RAZYGRAYEV, A.M., inzhener (Leningrad).

Make-up of a multiple-element diagram of an electric drive  
operating in an automatic cycle. Elektrichestvo no.11:15-20  
N '56. (MLRA 9:12)

(Electric driving) (Automatic control)

RAZYGRAEV, A.M.

3

651.34: 621.318.5

1401. SYNTHESIS OF A MULTI-SEQUENCE CIRCUIT OF AN ELECTRIC DRIVE OPERATING IN AN AUTOMATIC CYCLE. 9

A.M. Razygraev.

Elektrichestvo, 1958, No. 11, 15-20. In Russian.

Application of relay-circuit theory to a special problem is simplified by the use of a "working table", based on the principles of circuit algebra; the methods available are: (a) grouping of two-position intermediate elements with the receiving elements; (b) use of multi-position distributing elements. Maximum simplification of the circuit is obtained by combining the functions of receiving and servo-elements in one multi-positional command apparatus with mechanical control (by the servo-mechanism). This, however, is limited to linear cycles with no additional conditions imposed. Multi-positional distributors which receive the command pulses from elements with homogeneous functions are more suitable. Such distributors may be either step-type distributors with contact brushes or cam-type relay-distributors; the latter are preferable for reversing cycles with a small number of positions. Transition to altered programmes should be considered as well as the basic cycle. The latter is facilitated by using a "cyclogram" instead of the "working table". In general, multi-position intermediate elements with two contact systems facilitate the operation of an automatic cycle.

B.F. Kraus

*Pen/008*

РММ РМТ, А. И.

У/С  
701.113  
..12

Проектирование и монтаж электрооборудования металлорежущих  
станков (Design and assembly of the electrical equipment of metal cutting  
machine tools, by) A. I. Razygrayev i E. A. Egorin. Moskva, Mashgiz, 1952.  
222 p. illus., diagrs.  
"Literatura": p. 210-211.

1. RAZYORAYEV, A. M.
2. USSR (600)
4. Electric Controllers
7. Increasing the dependability of electric controls.  
Stan. i instr. 23 No. 9, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

RAZYGRAYEV, A. M.

"Work of the Machine Factory. imeni Ya. M. Sverdlov in Leningrad."

Programmed Control of Metal Cutting Machines. report presented at  
All-Union Conference, Moscow, 13-16 Nov 1957  
Vestnik Ak. Nauk SSSR, 1958, No. 2, pp. 113-115, (author Kobrinskiy, A. Ye.)

8(2)

SOV/112-58-3-4538

Translation from: Referativnyy zhurnal. Elektrotehnika, 1958, Nr 3,  
pp 164-165 (USSR)

AUTHOR: Razygrayev, A. M.

TITLE: Follow-Up Systems of Duplicating-Milling Machines at the imeni Sverdlov  
Plant and Operating Experience With Them (Sledyashchiye sistemy  
koproval'no-frezernykh stankov zavoda im. Sverdlova i opyt ikh ekspluatatsii)

PERIODICAL: V sb.: Avtomatizatsiya v mashinostr. M., Mashgiz, 1957, pp 43-56

ABSTRACT: A structural diagram is presented of a follow-up electrical drive of  
the 6441A duplicating-milling machine at the plant imeni Sverdlov as developed  
by Professor T. N. Sokolov; in this follow-up drive, an automatic specified  
cutting-power control is provided, in addition to automatic error control. By  
means of an inductive primary element, the error signal is converted into an  
AC voltage proportional to the error. A peculiar feature of the system is a  
resistive integrating circuit in the phase-sensitive amplifier, which simply

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8(2)

SOV/112-58-3-4538

Follow-Up Systems of Duplicating-Milling Machines at the imeni Sverdlov Plant . . . .

eliminates the static error of duplication. Formulae for designing the inductive primary element are presented, as well as the phase-amplifier circuit diagram and design. The amplidyne control windings are connected to the output stage of the follow-up feed amplifier which has a current-feedback-type balance or bridge circuit. The machines have either a 2-dimensional or 3-dimensional duplication, with one or two error-measuring devices respectively. The latest-model machines have a 3-dimensional duplication and automatically follow the contour. A scheme is described for automatic maintenance of the constant cutting power; in this scheme, the motor power is measured by a transformer having primary current and voltage windings. The schemes described above are complicated and require difficult alignment by trained personnel. Recommendations are given for improving the quality of the mechanical system of machines. At present, the follow-up system assemblies are being improved, and new machining conditions are being introduced that

Card 2/3



8(2)

SOV/112-58-3-4538

Follow-Up Systems of Duplicating-Milling Machines at the imeni Sverdlov Plant . . .

are expected to increase machine productivity by raising the rate of following  
and by expanding the range of variation of maximum speeds. Illustrations: 7.

N.S.B.

Card 3/3

RAZYGRAYEV, Aleksandr Matveyevich; KRIVSHIN, A.F., kand. tekhn.  
nauk, retsentent; MIKHAYLOV, A.Ye., inzh., retsentent;  
LYTHINA, L.S., red.

[Technology and organization of the repair of building  
machinery and equipment] Tekhnologiya i organizatsiya  
remonta stroitel'nykh mashin i oborudovaniya. Izd.2.  
Moskva, Stroizdat, 1964. 383 p. (MIRA 17:9)

Автоматизация механической обработки в инструментальной промышленности:  
(Automation of Mechanical Machining Processes in Tooling Industry) Москва,  
Машигиз, 1979. 358 в. Иллюстраций вставлено. 4,000 копий напечатано.

General Ed.: I. M. Kutshay Barinovskii, M. P. Shchepetilnikov, Candidates of Technical Sciences, Doctor, and Ye. V. Miller, Candidate of Technical Sciences, Doctor;  
Eds. of Publishing House: T. Lavtina and M. A. Gerasimov, Eds.: O. V. Spitsynskaya, Associate Ed. for Literature on Machine-Building Technology (Leningrad Division, Moscow); Ye. P. Nemov, Engineer.

**WARNING: This book is intended for technical personnel.**

[illegible]

For the simplest control systems, and a number of the original systems are described. Automation problems involved in the group scheduling method are investigated. No formalities are involved. There are 57 references. 45 Soviet and 11 English.

REEDER, L.M., and A.M. KATZ. Experience Gained in the Use of Hydraulic  
Blow Rods in Log Production

Bareilly, N.B., and V.K. Tripathy, V.K. Tripathy's Hydraulic Copying Slide  
Host

**IDEAL PROGRAM CONTROL**

**EDUCATIONAL PROGRAM CONTROL**

Enoch - M.D. at Numerical Program Control for the Automation of Machine Tools in Small-to: Production

YOUNG, A. A., O. M., Bolster, O. O., Kornienko, and B. L. Terrell.  
Numerical Computing Device for Controlling Machine Tools During  
Execution of Second-Order Curves

Reykjavik, A.M., and E.A. Brydin. Boring Machine Model 202R With Scientific Control

Ylaeet, M.O., Ta. B. Gerasimov, and M.A. Tribolovsk, Drilling  
Machines With Program Control

# Reel A-1. The Use of Potentiometric Functional Transducers as Setting Devices in Program Control Systems.

# Shafranski, P.Y. - Operational Program Control With Relay-Contact Device For Setting the Magnitude of Tool Displacements

Publisher, P.A. - Inmate/Student Single-Coordinate Program Control System  
for Laibos

Resumingly, A.S. Experience Gained in the Use of the Gym Program  
Control System to Train Ladies (O.A. Gym.; Candidate of Technical Sciences) 254

**ACTIVITIES IN LOG PRODUCTION PAID ON THE**

**ACTIVITIES IN LOG PRODUCTION PAID ON THE**

MILITARY, S. P. A., Group Method as the Basis of Automation in  
Lat Production 249

Exhibit 1A... The New Model 1140 Single-Drive Automatic  
Typing Machine

Villaverde, I.M., and G.T. Borodavenko. Mechanization of Assembly and Disassembly of Mounting at the David Lloyd Lenses (Plant Lenses Lenses)

333

AVAILABLE: Library of Congress

Cmd 5/5

TK/PW/ma  
10-25-60

RAZYGRAYEV, A.M.; SABININ, Yu.A., kandidat tekhnicheskikh nauk, nauchnyy redaktor; ZUSMAN, V.G., kandidat tekhnicheskikh nauk, retsentsent.

[Electronic control of metal cutting machines] Elektronnoe upravlenie na metallorezhushchikh stankakh. Leningrad, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry [Leningradskoe otd-nie] 1953. 103 p. (MLRA 7:?)

(Metal cutting) (Electronic control)

13 (3),(5),(6); 25(1)

PHASE I BOOK EXPLOITATION

SOV/1870

Razygrayev, Aleksandr Matveyevich, and David Anisimovich Braun

Tekhnologiya metallov (Metal Processing) Moscow, Gosstroyizdat, 1958. 322 p.  
Errata slip inserted. 25,000 copies printed.

Scientific Ed.: Ya. M. Ayzenberg, Engineer; Ed.: V.I. Zakharenko and  
P.A. Gordeyev; Tech. Ed.: L.Ya. Medvedev and E.M. El'kina.

PURPOSE: This is a textbook on metals and metal processing for students specializing in mechanics at construction tekhnikums. It may also be useful as a manual for machinists working in industry.

COVERAGE: The book consists of five self-contained parts in which are examined various processes having different theoretical foundation but connected by the common properties of metals and based on knowledge acquired by students in courses in chemistry, physics, and engineering mechanics. Information is given on the metallurgy of cast iron, steel, copper, and aluminum, and the structure and properties of metals and alloys are discussed. The book also discusses founding and the forming and cutting of metals and gives information on machine tools.

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Metal Processing

80V/1870

No personalities are mentioned. There are no references.

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Metal Processing

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GO/gmp  
7-23-59



RAZYGRAYEV, Arkadiy Mikhaylovich [deceased]; YURASOV, A.I., kand.  
tekhn. nauk, retsenzent; MINSKER, E.I., inzh., red.

[Structural synthesis of the electrical circuits of machine  
tools] Strukturnyi sintez elektroskhem metallovezhushchikh  
stankov. Moskva, Energiia, 1964. 71 p. (Biblioteka po av-  
tomatike, no.106) (MIRA 17:10)

ACC NR: AF6036107

SOURCE CODE: UR/0365/66/002/006/0636/0642

AUTHOR: Mirolyubov, Ye. N.; Razygrayev, V. P.

ORG: Institute of Physical Chemistry AN SSSR (Akademiya nauk SSSR Institut fizicheskoy khimii)

TITLE: Corrosion and electrochemical behavior of iron-chromium alloys in boiling concentrated nitric acid

SOURCE: Zashchita metallov, v. 2, no. 6, 1966, 636-642

TOPIC TAGS: iron containing alloy, chromium containing alloy, corrosion rate, nitric acid

ABSTRACT: The article reports an investigation of binary alloys of iron and chromium over a wide range of electrode potentials. The samples were vacuum remelted chromium, Armco iron, and several of their alloys, with carbon contents of not more than 0.04% after annealing. The experiments were carried out in boiling 14 M nitric acid by a previously described method. The values of the potentials were taken with respect to a normal hydrogen electrode, without taking the thermodiffusion potential into account. With a spontaneously established potential in 14 M  $\text{HNO}_3$ , Armco iron dissolves at a slow rate. Introduction of 14% chromium into the alloy increases its corrosion resistance by  $10^5$  times. Further addition of chromium has less effect. A

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UDC: 620.193.57

ACC NR: AP6036107

figure shows the dependence of the corrosion rates of the alloys investigated on the potential. Based on the experimental data, the following conclusions were drawn: 1) with an increase in chromium content, the corrosion rate of its alloys with iron decreases in the regions of partial passivation; at potentials of 1.3-1.4 volts, it varies only slightly and, at higher anodic potentials, it varies passing through a maximum; 2) the characteristics of the corrosion behavior of alloys of the iron-chromium system in boiling concentrated nitric acid are due not only to the ratio of the solution rates of iron and chromium (which differ over a wide range from those in sulfuric acid media), but also to the significant inhibition of the corrosion of chromium and its alloys at high anode potentials by the products of the solution of  $\text{Cr}_2\text{O}_7^{2-}$  anions; 3) iron alloys with a chromium content of more than 14% and pure chromium in concentrated nitric acid are not activated at cathode potentials up to 0.0 volts. Orig. art. has: 3 figures.

SUB CODE: 07, 11/ SUBM DATE: 02Sep65/ ORIG REF: 019/ OTH REF: 014

Card 2/2

L 2617-66 EWT(m)/EPT(c)/EWA(d)/EWP(t)/EWP(z)/EWP(b) IJP(c) MIW/JD/JG/WB

ACCESSION NR: AP5011361

UR/0365/65/001/002/0178/0183  
620.193.56

AUTHOR: Mirolubov, Ye. N.; Razygrayev, V. P.

TITLE: Characteristic corrosion properties of stainless steels and chromium in boiling concentrated nitric acid

SOURCE: Zashchita metallov, v. 1, no. 2, 1965, 178-183

TOPIC TAGS: corrosion, corrosion resistance, stainless steel, chromium, nitric acid, chromium steel

ABSTRACT: Rates of corrosion, electrode potentials, and cathodic and anodic currents were studied for 1Kh13 and 1Kh18N9T steels and chromium in boiling 14-molar  $\text{HNO}_3$  containing  $\text{SO}_4^{2-}$  and  $\text{Cr}_2\text{O}_7^{2-}$  ions. The corrosion tests lasted 1-4 hours. Changes in electrode potentials were measured using the following circuit: tested electrode / boiling 14-molar  $\text{HNO}_3$  / saturated  $\text{KNO}_3$  / saturated  $\text{KCl}$ ,  $20^\circ$  / saturated  $\text{KOH}$ ,  $20^\circ$ . The electrode potentials are given in reference to the normal hydrogen electrode. Formation of surface oxides on stainless steels during corrosion affects the time dependence of electrode potential, the rate corrosion and the kinetics of the anodic and cathodic processes at constant potential difference. The

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L 2617-66

ACCESSION NR: AP5011361

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corrosion resistance of stainless steels in hot concentrated  $\text{HNO}_3$  increases with increasing content of chromium in steel and with concentration of the  $\text{Cr}^{6+}$  ion in solution for both the steels in passivated form and steels in the initial stage of superpassivation. In a wide range of potential difference, an addition of  $\text{SO}_4^{2-}$  ions to  $\text{HNO}_3$  solution reduces corrosion resistance of stainless steels. The steel corrosion process in hot concentrated  $\text{HNO}_3$  medium is strongly influenced by the rate of chemical reaction at the solid-liquid interphase. The time dependence of the electrode potential and the rate of corrosion in boiling 14-normal  $\text{HNO}_3$  are given in fig. 1 of the Enclosure. The dependence of the rate of corrosion upon the potential is shown in fig. 2 of the Enclosure. Orig. art. has: 4 figures.

ASSOCIATION: Akademiya nauk SSSR Institut fizicheskoy khimii (Academy of Sciences, Institute of Physical Chemistry) 4455

SUBMITTED: 10Nov64

ENCL: 02

SUB CODE: MM, GC

NO REF SOV: 009

OTHER: 005

Card 2/4

L 2617-66

ACCESSION NR: AP5011361

ENCLOSURE: 01

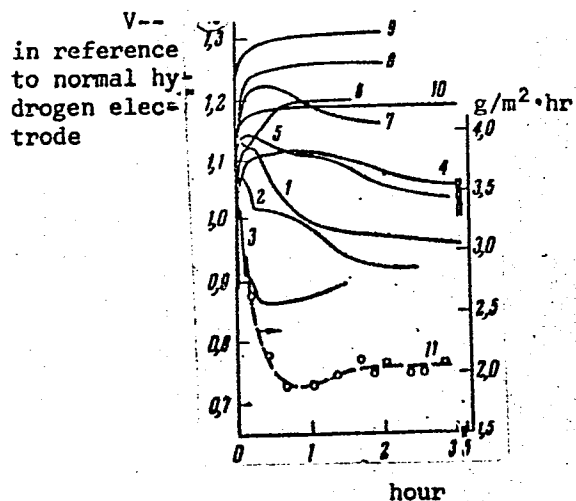


Fig. 1. 1-3, 5-9, and 11--1Kh13;  
4--1Kh18N9T; 10--chromium;  
1, 4, and 11--no additives; 2--  
1 g/l  $K_2SO_4$ ; 3--5 g/l  $K_2SO_4$ ;  
5--0.48 g/l corrosion products;  
6--5 g/l  $K_2SO_4$  + 1.4 g/l corro-  
sion products; 7--0.01 g/l  $Cr^{6+}$ ;  
8--0.5 g/l  $Cr^{6+}$ ; 9--0.3 g/l  $Cr^{6+}$ .

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L 2617-66

ACCESSION NR: AP5011361

ENCLOSURE: 02

0

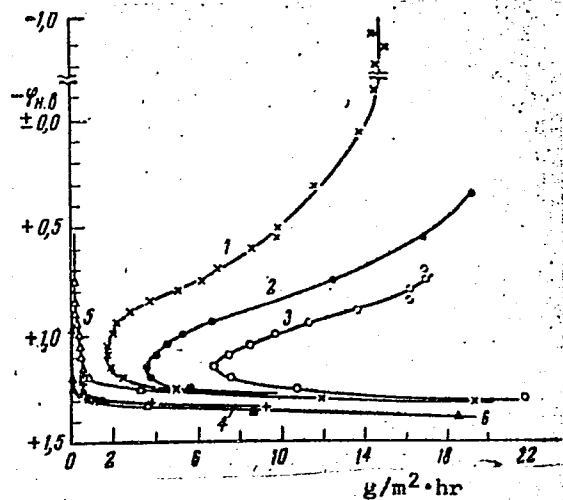


Fig. 2. 1-4--stainless steel 1Kh13; 5--1Kh18N9T; 6--chromium; 1, 5, and 6--boiling 14-normal  $\text{HNO}_3$ ; 2--1 g/l  $\text{K}_2\text{SO}_4$ ; 3--5 g/l  $\text{K}_2\text{SO}_4$ ; 4--Cr<sup>6+</sup>.

Card 4/4

L 47090-66 EWI(m)/EWP(t)/ETI IJP(c) JD/WB

ACC NR: AP6030862

(N)

SOURCE CODE: UR/0365/66/002/005/0539/0544

AUTHOR: Razygrayev, V. P.; Mirolubov, Ye. N.

42B

ORG: Institute of Physical Chemistry, Academy of Sciences SSSR (Institut fizicheskoy khimii, Akademiya nauk SSSR)

TITLE: Intergranular corrosion of chromium steels in concentrated nitric acid

SOURCE: Zashchita metallov, v. 2, no. 5, 1966, 539-544

TOPIC TAGS: stainless steel, intergranular corrosion, chromium stainless steel, /Kh25T stainless steel

ABSTRACT: The susceptibility to intergranular corrosion of Kh25T chromium steel and of iron-base alloys containing 11.8% or 6.7% chromium in solid solution has been investigated. The steel specimens were tested in boiling 65% nitric acid. On the basis of obtained results the dependence of the corrosion rate on the electrode potential was established. The intensity of intergranular corrosion was found to decrease as the electrode potential increased up to +1.35 v. At higher potentials, the grains corrode at a higher rate than the grain boundaries. In the presence of  $Cr^{+6}$  anions, the corrosion becomes more localized and changes into intergranular or knife-line attack. Orig. art. has: 5 figures. [TD]

SUB CODE: 11, 13/ SUBM DATE: 16Sep65/ ORIG REF: 013/ OTH REF: 006/

Card 1/1 hs

UDC: 620.196



PEASHIN, G.P., kand.sel'skokhoz. nauk; RAZYKOV, K.; ATABEKOV, N.; KADYR-KHODZHAYEV, P.

Using fertilizers in the virgin lands of the Golodnaya Steppe. Zemledelie 25 no.9:54-55 S '63. (MIRA 16:9)

1. Vsesoyuznyy ordena Lenina nauchno-issledovatel'skiy institut khlopkovodstva.

(Golodnaya Steppe—Fertilizers and manures)

ADILKHODZHAYEV, A.A.; RAZYKOV, R.

Stability of loamy brick masonry subjected to noncentral compression. Izv. AN Uz.SSR. Ser.tekh.nauk no.4:41-45 '58.  
(MIRA 11:11)

1. Institut sooruzheniy AN UzSSR.  
(Bricklaying)

SHISHKIN, A., doktor tekhnicheskikh nauk; RAZYKOV, R., inzh.

Vertical joints in exterior walls of panel buildings. Zhil. stroi.  
no.2:6-7 F '61. (MIRA 14:1)  
(Walls) (Concrete slabs)

YEMEL'YANOV, A., kand.tekhn.nauk; RAZYKOV, R., inzh.

Testing the air and water permeability of joints of exterior  
walls in large-panel buildings. Zhil.stroi. no.8:13-16 Ag '61.  
(MIRA 14:8)

(Walls)

RASSKAZOVSKIY, V.T.; RAZYKOV, R.

Making solid joints in walls made of large brick blocks. Dokl.  
AN Uzb. SSR no.3:45-47 '58. (MIRA 11:6)

1. Institut sooruzheniy AN UzSSR. Predstavleno akademikom AN UzSSR  
M.T. Urazbayevym. (Bricklaying)

RAZYKOV, R.S., inzhener.

Door interlock for the enclosure of a battery of static capacitors.  
Prom.energ.ll no.9:21 S '56. (MLRA 9:11)  
(Electric switchgear)

L 56644-65  
ACCESSION NR: AT5014635

UR/0000/65/000/000/0200/0204  
681.142.324

AUTHOR: Razykov, R.S.

TITLE: Determination of the magnetic parameters of toroidal core materials during sectionally linear representation of their hysteresis loop

SOURCE: Vsesoyuznoye soveshchaniye po magnitnym elementam avtomatiki i vychislitel'noy tekhniki, 9th, Yerevan, 1963. Magnitnyye analogovyye elementy (Magnetic analog elements); doklady soveshchaniya. Moscow, Izd-vo Nauka, 1965, 220-204

TOPIC TAGS: toroidal core parameter, sectionally linear representation, hysteresis loop representation, core magnetic property, control system design

ABSTRACT: M.A. Rozenblat previously showed (Avtomatika i telemekhanika, 1958, XIX, no. 8) that toroidal cores exhibit magnetic properties which differ from the properties of the material from which they are made. This is caused by the variation of field strength over the radius of the core. The present paper investigates the analytic determination of the magnetic parameters from close-to-static loops and toroid core remagnetizations. The results show that the ascending portion of the hysteresis loop does not contain linear portions. Consequently, during the determination of magnetic

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L 56644-65  
ACCESSION NR: AT5014635

parameters of materials using a sectionally linear approximation of the loop, one must, in addition to the limiting parameters  $B_m$ ,  $B_r$ , and  $H_m$ , also utilize intermediate values of the field referring respectively to the lower and upper nonlinear portions of the core remagnetization curve. The article also presents certain formulas which are useful during the design of systems using cores. Orig. art. has: 31 formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 28Dec64

ENCL: 00

SUB CODE: IE, EM

NO REF SOV: 002

OTHER: 000

Card



MINOLYUBOV, Ye.N.; RAZYGRAYEV, V.P.

Characteristics of the corrosion of stainless steel and  
chromium in boiling concentrated nitric acid. Zashch. met.  
1 no.2:178-183 Mr.-Ap '65. (MIRA 18:6)

1. Institut fizicheskoy khimii AN SSSR.

RAZYKOV, R.S.

Transfluxors. Izv. AN Uz.SSR. Ser. tekhn. nauk no. 4: 15-23 '61.  
(MIRA 15:1)

1. Institut energetiki i avtomatiki AN UzSSR.  
(Magnetic theory (Calculating machines))

RAZYKOV, R.S.

Some examples of the application of transfluxors. Izv. AN Uz.SSR  
Ser.tekh.nauk no.5:12-17 '61. (MIRA 14:11)

1. Institut energetiki i avtomatiki AN UzSSR.  
(Automation)

RAZYKOV, R.S.

Determining the magnetic parameters of the material of  
toroidal cores. Izv. AN Uz. SSR. Ser. tekhn. nauk 7 no.6:  
10-19 '63. (MIRA 17:6)

1. Institut energetiki i avtomatiki AN UzSSR.

RAZVODOVSKAYA, V. M.

2060. Quantitative determination of sulphur and silicon by means of a steeloscope. A. S. Andrianov, V. N. Razvodovskaya and P. M. Sinitskaya. Dokl. Akad. Nauk SSSR, 1964, 40, 107-114; Ref. Zhur. Khim., 1965, Abstr. No. 23,980.—Conditions for determining S (0.04 to 1 per cent.) in solutions, and Si (2.5 to 9.5 per cent.) in aluminium alloys by means of a Sventitskii activated a.c. arc and a steeloscope are described. G. S. SMITH

chem

3

M.A. YOUTZ

scopics

EM

ST

LUKINA, N.K.; RAZZAKOV, A.A.

Long-range forecasting of the average water discharge during the vegetation period in rivers flowing from the southeastern slope of the Fergana Range. Trudy Sred.-Az.nauch.-issl.gidrometeor.inst.no. 17: 74-83 '64. (MIRA 17:9)

RAZZAKOV, I.R.

[Intelligentsia of Soviet Kirghizistan in the struggle to  
execute the decisions of the 21st Congress of the CPSU]  
Intelligentsiia Sovetskogo Kirgizstana v bor'be za osushche-  
stvenie reshenii XXI s"ezda KPSS. Frunze, Kirgizskoe gos.  
izd-vo, 1960. 48 p. (MIRA 14:2)  
(Kirghizistan--Economic policy)

RAZZHIGAYEV, Anatoliy Fedorovich; CHAYKO, P.Ya., inzh., retsenzent;  
RUDAKOV, A.S., kand.tekhn.nauk, red.; DUGINA, N.A., tekhn.red.

[Devices for the assembly of parts for welding] Svarochno-svarochnye prispobleniia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 49 p. (Nauchno-populiarnaia biblioteka rabochego-svarshchika, no.23).

(MIRA 14:4)

(Welding--Equipment and supplies)





RAZZHIVIN, K.A. (Leningrad)

Stressed state of an open circular cylindrical shell with fastened  
rectilinear edges. Izv. AN SSSR. Otd. tekhn. nauk. Mekh. i mashinostr. no. 5:  
147-150 S-0 '62. (MIRA 15:10)

(Elastic plates and shells)

POPOVA, V.V.; TIRNOVA, N.V.; BAZYVAYEV, G.A.

Thermal stability of suspension polyvinyl chloride. Vysokom.  
soed. 7 no.3:531-535 Mr '65. (MIRA 18:7)

1. Institut khlororganicheskikh produktov i akrilatov.

RAZZHIVIN, A.B.

Role of the ground source of mountain rivers in the Sikhote-Alin'  
Range. Biul. MDIP. Otd. geol. 39 no.3:110-112 My-Je '64.  
(MIRA 17:12)

RAZZHIVIN, A.B.

Certain features of hydrogeological mapping in the mountainous regions of the southern part of the Soviet Far East. Razved. i okh. near 30 no.10:52-55 0 '64. (MIPA 18:11)

1. Gosudarstvennyy geologicheskii komitet SSSR.

ACC NR: AR6035135

SOURCE CODE: UR/0275/66/000/009/V019/V019

AUTHOR: Serebrennikov, V. A.; Razzhivin, B. P.

TITLE: Delay lines with a wire acoustical line

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 9V137

REF SOURCE: Tr. Leningr. in-t aviats. priborostr., vyp. 45, 1965, 33-37

TOPIC TAGS: circuit delay line, propagation velocity, longitudinal wave, acoustic line, delay line

ABSTRACT: The problems of designing ultrasonic dispersion delay lines, in particular wire delay lines are examined. The expediency of using longitudinal waves of the first order of magnitude is indicated, for which it is possible to obtain a considerable linear region of dependence of the delay on frequency. The following equations are derived for calculating the diameter  $d$  and the delay line  $L$ :

$$d = \frac{(x_1 - x_2) v_0}{\Delta f}$$

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UDC: 621.374.55-8

ACC NR: AR6035135

where  $x_1 = \frac{df_1}{v_0}$ ,  $x_2 = \frac{df_2}{v_0}$  and  $f_1, f_2$  are the cutoff frequencies;  $v_0$  is the propagation velocity in the delay line; and

$$L = \frac{S}{\frac{v_0}{u_2} - \frac{v_0}{u_1}}$$

where  $u_1$  is the group velocity of the longitudinal waves at frequency  $f_1$ ;  $u_2$  is the group velocity of the longitudinal waves at frequency  $f_2$ ;  $S$  is the steepness of the linear sector of the dispersion curve  $C$ . Recommendations are made for selecting materials and designs of the delay lines and the experimental data are presented. A bibliography of 2 titles is included. [Translation of abstract] [NT]

SUB CODE: 20/

Card 2/2

RAZZHIVIN, K.A. (Leningrad)

Approximate solution of the problem of the deformation of  
an open cylindrical shell. Izv. AN SSSR. Mekh. i mashinostr.  
no.6:163-166 N-D '63. (MIRA 17:1)



RAZZHIVIN, K.V.

USSR/Engineering - Welding.  
Materials

Aug 51

"Fabrication of UONI-13/45 and UONI-13/55  
Electrodes by Power Presses," K. V. Raz-  
zhivin, Engr

"Avtogen Delo" No 8, pp 21,22

Discusses shortcomings of old methods for  
coating electrodes by dipping and develop-  
ment of satisfactory pressing method due  
to improvement in plastic properties of  
coating mixts by modification of their  
compn. Gives mech properties and chem  
compn of coating mixts.

200T54

MOTORIN, G.; RAZZHIVIN, L., inzh.; SKAKUNOV, N.

Brief news. Izobr. i rats. no. 5:33 My '61.

(MIRA 14:5)

1. Predsedatel' soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov, poselok N.Baskunchak Astrakhanskoy obl. (for Motorin).
  2. Proizvodstvenno-tekhnicheskii otдел Ivanovskogo khlopchatobumazhnogo kombinata, g. Ivanovo (for Razzhivin).
  3. Glavnyy inzh. oblastnogo upravleniya sel'skogo khozyaystva, g. Stalingrad (for Skakunov).
- (Technological innovations)

RAZZHIVIN, L.P.

Bearings withcast iron bushings. Tekst.prom. 20 no.4:73-74 Ap  
'60. (MIRA 13:8)

1. Pomoshchnik mastera fabriki imeni Varentsovoy.  
(Textile machinery)  
(Bearings(Machinery)

RAZKHIVIN, L.P.

Modernization of carding machines. Tekst.prom. 19 no.4:77-78  
Ap '59. (MIRA 12:6)  
(Carding machines)

RAZZHIVIN, L.F., inzh.; LAPSHINA, A.I.

From the experience of covering the carder doffers with the "Ostraia-1" saw-toothed clothing. Tekst.prom. 21 no.5:53-54 My '61.

(MIRA 15:1)

1. Proizvodstvenno-tekhnicheskiy otdela Ivanovskogo kholpchatobumazhnogo kombinata (for Razzhivin). 2. Zaveduyushchiy laboratoriyey pryadil'no-tkatskogo otdela Ivanovskogo khlopchatobumazhnogo kombinata (for Lapshina).

(Carding machines)

RAZZHIVIN, L.P., inzh.

For savings in metals. Tekst.prom. 21 no.9:95 S '61.

(MIRA 14:10)

1. Proizvodstvenno-tekhnicheskiy otdel Ivanovskogo khlopchatobumazhnogo kombinata.

(Ivanovo—Textile industry—Equipment and supplies)

RAZZHIVIN, V., inzh.

Calculation of the fuel supply for an airplane. Grashd.av.

19 no.9:27 S '62.

(MIRA 16:1)

(Airplanes--Fuel systems)

MARKOV, G., pilot; RAZZHIVIN, V. shturman.

Cooperation between flight crews and airport personnel. Grazhd. av.  
14 no.3:24-26 Mr '57. (MLRA 10:6)

(Aeronautics, Commercial)



L 20544-66 EWT(m)/EWP(v)/T/EWP(t)/EWP(k) JD/HM  
ACC NR: AP5023077 SOURCE CODE: UR/0125/65/000/009/0005/0007

AUTHOR: Alekin, L.Ye. (Candidate of technical sciences); Zorin, Yu.N. (Candidate of technical sciences); Razzhivin, V.N. (Engineer); Guma, V.V. (Engineer) (Moscow); Popenko, V.S. (Engineer) (Moscow) 57  
B

ORG: none

TITLE: Determination of the volt ampere characteristics of a low-current welding arc 18

SOURCE: Avtomaticheskaya svarka, no. 9, 1965, 5-7

TOPIC TAGS: volt ampere characteristic, arc welding, welding, welding electrode, arc discharge, arc property

ABSTRACT: A method of determining volt ampere characteristics of a low-current arc in argon is described. It is shown that the error in arc column and length determinations can be eliminated by photographing the arc with two cameras arranged at right angles to each other. A clear picture of the entire area including the electrode, weld, cathode spot, anode spot, and column can be obtained with the aid of additional rings and light filters. The true distance between the tip of the electrode and the weld in the presence of a flash arc is determined within an accuracy of 0.01 mm by taking into account the thermal expansion of the electrode. The arc is ignited on a special pipe with escalated ribs fusible in the molten pool in order to eliminate

UDC: 621.791.856 2

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ACC NR: AP5023077

measurement errors due to sinking of the arc in the base metal and to obtain a molten pool at any welding current. This method was used in determining the static volt ampere characteristic and the relationship between the arc current and gap in argon welding with a nonfusible tungsten electrode. Orig. art. has: 4 figures.

SUB CODE: 13,09

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(A)

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ORG: none

TITLE: Methods of determining the regulation characteristics of a low-amperage arc in argon

SOURCE: Svarochnoye proizvodstvo, no. 12, 1966, 9-11

TOPIC TAGS: motion picture camera, current source, welding inspection, arc welding, welding technology / Kiev 16S-2 motion picture camera, IP-50 current source

ABSTRACT: At present argon-arc welding by means of automatic welding machines (AWM) with a nonconsumable electrode is widely employed to weld parts of stainless steel 0.2-1.0 mm thick in argon with the aid of positive-polarity direct current with an 0.25-3.0 mm long arc. The intensity of the welding current ranges from 1.0 to 70 a. The ultimate purpose of regulation is to produce a welded joint of high quality. But since the AWM affects directly not the

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weld but the arc, this regulation can be accomplished only if the regulation characteristic, i.e. the dependence of voltage on arc length, is known, since the AWM reacts directly not to the length but to the voltage of the arc. Normally the regulation characteristic is determined by static tests or from a recalculation of volt-ampere characteristics of the arc, but this does not reveal all the features of the regulation characteristic, particularly for the welding of parts 0.2-0.5 mm thick with the aid of a short arc with currents of less than 30 a. Of special practical interest in this connection is the part of the regulation characteristic corresponding to arcs of less than 0.5 mm in length; if in this case the voltage is either virtually independent of the arc length or increases with decreasing arc length, then even a highly sensitive feedback-type AWM cannot assure the regulation of arc length with respect to voltage. To eliminate this difficulty, the authors developed a new method of determining the regulation characteristic, based on the following considerations: Since the regulation characteristic represents the dependence of  $U_0$  on  $L_0$ , a continuous curve can be plotted during continuous movement of the electrode. At the same time, in order to gain the correct idea of the arc length, the position of the arc column must be checked in two mutually perpendicular planes and the plunge of the arc into the metal prevented. This new method provides for the simultaneous examination of the arc from both sides by means of two Kiev 16S-2 motion picture cameras (16 frames per second) positioned at right angles to each other so that the position of the arc column and the length of the arc can be accurately determined. A corresponding experimental setup was con-

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structed (Fig. 1): its principal components are: welding torch 1, mechanism 2 for vertical movement of welding torch, at the rate of 0.2-2.0 mm/sec, rotator 3, chuck 4 for attachment of welding heat, and table 5.

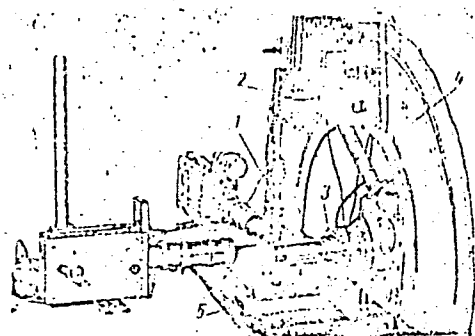


Fig. 1. Experimental setup

The double filming of the welding operation is synchronized with oscillographic recording of current and voltage by means of a time mark whose design and switching circuit are shown in Fig. 2: the connection and disconnection of the electrical circuit are assured by the closing of contacts 2 by shutter 1 of the motion picture camera, represented by a metal disk with a flare

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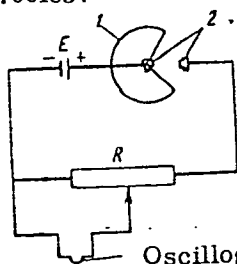


Fig. 2. Design and switching circuit of time mark

angle of  $110^\circ$ . Argon consumption was 140-160 liters/hr. Regulation characteristics were plotted for currents of from 0.7 to 50 a. Findings: processing of the kinograms showed that in the presence of short arcs the arc column is rarely displaced from its axis and the resulting deviation is sufficiently stable in time and readily fixed by means of the kinogram. In subsequent experiments an IP-50 current source was employed to reduce to  $\sim 3\%$  the current deviation accompanying the change in arc length from 0.1 to 5.0 mm. It was found that when the arc length is sufficiently short the linear relationship between voltage and arc length no longer applies and the regulation characteristic becomes nonlinear. This nonlinearity clearly manifests itself when the arc length is 0.5 mm and shorter. Orig. art. has: 4 figures.

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Card 4/4

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